Original Article

The Effect of Omeprazol in the Treatment of Laryngeal Manifestations of Gastro-oesophageal Reflux

Oday Abdelrahman Al-beiruty FICMS(Otolaryngology) *
Ahmed Muhei Rasheed FIBMS(Otolaryngology) **
Hayder Al-Zubaidy M.BCh.B

Fac Med Baghdad 2008; Vol.50, No.2
Received July 2007
Accepted Dec..2007

Summary:

Background: Reflux laryngitis has gain a lot of attention in the last three decades as a possible explanation of idiopathic laryngeal problems.Acid suppressive therapy can be of use in both the therapeutic and the diagnostic fields.The use of Omeprazole has proved to be of benefit in the diagnosis and treatment of reflux laryngitis.The response to 12weeks course of Omeprazole is considered by many authors to be one of the diagnostic tooles of reflux laryngitis.

Aim: Is to study the effect of Omeprazole in the treatment of laryngeal manifestations of gastro-oesophageal reflux

Patients and methods: This is a prospective study of 37 patients attending Al-kadhimiyah teaching hospital,department of otolalyngology during the period from April 2005 to April 2006,complaining of symptoms suggestive of reflux laryngitis.The chief compliant of each patient was taken as a reference for the improvment.Complete clinical examination was done for each patient as well as videolaryngoscopy.Oesophagogastroscope was done at the department of gastroenterology.

According to the findings seen in those patients,a course of Omeprazole 20mg bid was given for 12 weeks.Re-examenation including videolaryngoscopy was done at 6^{th}and12^{th}weeks of treatment.Oesophago-gastroscopy was repeated at 12^{th} week of treatment.

Resultst: There was symptomatic improvement in the chief complaint and improvement in the videolaryngoscopic findings in 29patients(78.38%)at the end of treatment course with omeprazole.

Conclusion: We found that Omeprazole is effective in producing symptomatic relief in the chief complaint in 78.38% of patients at the end of treatment course.

Keywords :Gastro-oesophageal reflux disease,Omeprazole.

Introduction:

Over the last 3 decades, many reports have implicated reflux gastric acid as a cause of chronic laryngeal disorders.[1]

The extraoesophageal manifestations of GERD fall into 4 major categories: pulmonary,laryngeal,oral cavity and others,including non-cardiac chest pain and disturbedsleep.[2,3,4,5]

The clinician must have high degree of suspicion for the presens of GERD to make this diagnosis.[6,7]An estimated 4-10% of chronic nonspecific laryngeal disorders in otolaryngology clinics are associated with reflux disease.[8,9]About 10% of patients with chronic cough and 25%to50% of patients with globus pharyngeus have GERD.[10]

Some of the proposed extraoesophageal complications of GERD are as follows:buccal burning,bad breath,sore throat ,hoarseness ,chocking sensation ,globus hystricus ,regurgitation, contact granuloma of the true

* *Al-Nahrain University*
***Lecturer,Dep.ofSurgery;Otolaryngology, College of Medicine,Baghdad University.*

vocal cords,aspiration, posterior laryngitis ,chronic cough,laryngospasm and otalgia.[5,11]

Typical symptoms of GERD (e.g heartburn,regurgitation)may occur in only20% to 40% of patients with otolaryngological disorders;thus the absence of reflux symptoms dose not exclude this association between the reflux and the otolaryngological diseases.[7,12]

Three hypotheses attempt to explain the pathophysiology of GERD-related otolaryngological disorders.The first postulates that the gastric refluxate reaches the larynx and spills onto the vocal cords or the bronchial tree causing direct caustic injury.A second hypothesis states that pharyngeal muscle spasm, cough,or repeated throat clearing is caused by a reflux that is triggered when the oesophagus is exposed to high concentrations of acid.A third hypothesis implicates the deglutitive abnormalities,resulting in laryngeal penetration that brings the laryngeal mucosa in contact with potentially irritating swallowed materials.[13,14] There are three methods to diagnose GERD.The first method is barium oesophagography which has a sensitivity of 33% in diagnosing reflux.[15,16]Asecond method is endoscopy with biopsy.[17]Dual channel 24-hour ambulatory pH monitoring is the "gold standerd" to confirm the reflux event.[15,18]

GERD is treated by behavioral changes and medical treatment.Behavioral changes include avoiding foods that predispose to gastro-oesophageal reflux,eating smaller and more frequent meals,abstaining from eating at least 3 hours before bed time,wearing looser clothing,and elevating the head of the bed 10 to 15 cm.[12,15]Drugs used in treatment of GERD include in decreasing order of efficacy,Lansoprazole,Omeprazole,H2 blocker,prokinetic agents which may increase the tone of the lower oesophageal sphincter and accelerate gastric emptying,and antiacids which neutralize stomach acid temporarily and to an uncertain degree.[19,20,21]

Omeprazole by irreversibly binding to the H\K ATPase proton pump,suppresses basal and stimulated acid secretion.[22]

Patient and methods:

Awritten concent was taken from all patients entails that they agree to participate in this study.

This prospective study was carried out at Al-kadhmiyah Teaching Hospital during the period from April 2005 to April 2006.Thirty seven patients were studied,19 females and 18 males, their ages were in the range of(28-65)years with a mean age of 38years.The patients selected shoud have pharyngolaryngeal symptoms for at least 6 weeks of unknown aetiology after excluding all the possible causes.

Complete otolaryngological assessment was done,the chief complaints were taken as a reference for symptomatic relief.All patients have completed a symptom questionnaire ,which enquired whether they had experienced the following: globus sensation ,hoarseness, frequent throat clearing, dry cough, chocking especially at bed time, and odenophagia. Grading of the chief complaints was done:never(0),some of the time(1),most of the time(2),always(3). Fiberoptic laryngoscopic examination was done for all patients. Oesophagogastroscopy was done at the gastroenterology department, and repeated at the 12th week of treatment course(omeprazole 20 mg bid befor meal for 12 weeks). All the patients were assessed clinically for their chief compliants at 3^{ed},6th ,9th and 12th week of treatment. Videolaryngoscopic examination was repeated at 6th and 12th week of treatment course.

Results

Pretherapy assessment:

In this study,the most common chief complaint was globus sensation(28%). Table(1) shows the chief complaints distribution **.**

Table(1):Chief complaints distribution.

Chief complaints	Number of patients	Percentage
Globus sensation	10	28%
Frequent throat clearing	9	24%
Hoarseness	8	22%
Chocking	6	16%
Unexplained cough	2	5%
Odynophagia	2	5%

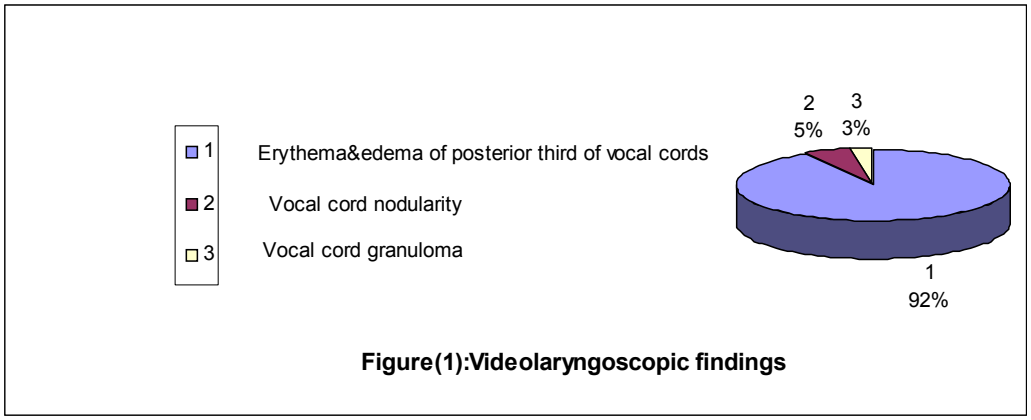
Pretherapy grading of chief complaints showed that most of the patients(18 patients)were in grade 2(table 2).

Table(2):Pretherapy chief complaints grading.

Chief complaints	Number of patients			
	Grade(0)	Grade(1)	Grade(2)	Grade(3)
Globus sensation	0	4	4	2
Frequent throat clearing	0	3	5	1
Hoarseness	0	1	5	2
Chocking	0	3	1	2
Unexplained cough	0	1	1	0
Odynophagia	0	0	2	0
Total	*0*	*12*	*18*	*7*

Videolaryngoscopic examination showed that 92% of the patients have erythema and edema of posterior third of vocal cords.

Figure(1) shows the videolaryngoscopic findings.



Figure(1):Videolaryngoscopic findings

The oesophagogastroscopic findings were erythema of the lower oesophagus with lax cardia in 32 patients(86.5%),and no significant findings in 5 patients(13.5%).

Post-therapy assessment:

Their was gradual improvement in the presenting chief complaints and videolaryngoscopic findings during the treatment course.The improvement in the chief complaints and videolaryngoscopic findings was seen in 20 patients(50.05%)at the 6^{th} week of treatment course.At the 12^{th} week,improvement in the chief complaints and videolaryngoscopic findings was seen in 29 patients(78.38%)(P value<0.001).
.The improvement in the chief complaints grading after treatment with omeprazole was as follows:

Of the *12* patients with grade*(1)* before treatment,*10* patients were changed to grade*(0)* after treatment.

Of the *18* patients with grade*(2)* before treatment,*8* patients were changed to grade*(0)*,and *7* patients were changed to grade*(1)*.

Of the *7* patients with grade*(3)* before treatment,*2* patients were changed to grade*(0)*,*1* patient changed to grade*(1)*,and *1* patient had been changed to grade*(2)*. The overall improvement in the chief complaints grading after treatment was seen in *29* patients*(78.38%)*.

Discussion :

In our study,we refered to the chief complaint as a marker for improvement,and the treatment course was omeprazole 20 mg bid for 12 weeks.Kamel et al[23] and Wo et al[24] were also refered to the chief complaint as a marker for improvement and used the same treatment course.

In this study the most common complaint was globus sensation(86.9%).Shaw et al[25] found that the most common symptom was frequent throat clearing(88%).The most common videostroposcopic finding in this study was erythema and edema of the posterior third of vocal cords,which is consistent with the findings of Kaufman et al[23] and Shaw et al.[25]

The improvement in the chief complaint after 12 weeks treatment course in our study was 78.38%.Kamel et al[23] mentioned that 79% of patients had shown improvement.Wo et al[24] showed that improvement was seen in only 40% of patients.

The current study had shown that there was a statistically significant improvement in the patients chief complaints and videolaryngoscopic findings after 12 weeks of treatment course with omeprazol(20mg bid).

Conclusion:

Omeprazole is significantly effective in the treatment of laryngeal manifestations of gastrooesophageal reflux.

References:

1-*Wilson JA.The oesophagus in otolaryngology.In:Scott-Brown otolaryngology;P-5:Laryngology and Head and Neck Surgery,6th edition 1997,pg;5\24\12-16.*

2-*Clark CL,Horwitz B.Complications of gastro-oesophageal disease:oesophagitis,acid laryngitis,and beyond.Postgrad Med 1996;100(5):95-108(1\2).*

3-*Al-Sabbagh G,Wo JM.Supraoesophageal manifestations of gastro-oesophageal reflux disease.Semin Gastrointest Dis 1999;10:113-9.*

4-*Fligny I,Francois M,Aigrain Y,et al.Subglottic stenosis and gastro-oesophageal reflux.Ann Otolaryngol Chir Cervicofac 1989;106:193-6.*

5-*Hogan WJ,Shaker R.Supraoesophageal complications of gastro-oesophageal reflux.Dis Mon 2000;46(3):193-232(22\2).*

6-*Koufman JA,Amin MR,Panetti M.Prevalence of reflux in 113 consecutive patients with laryngeal and voice disorders.Otolaryngol Head Neck Surg 2000;123:385-8.*

7-*Victor R.Mujica.DM;Satish S.C.Rao Recognizing atypical manifestations of GERD:Asthma,chest pain,and otolaryngologic disorders may be due to reflux;postgraduate medicine;vol 105.no1,January 1999(p1).*

8-*Denevey CW,Benner K,Cohen J:Gastro-oesophageal reflux and laryngeal disease.Arch Surg 1993 Sep;128(9):1021-5[medline].*

9-*Locke GR III,Talley NJ,Fett SL,et al.Prevalence and clinical spectrum of gastro-oesophageal reflux:a population based study in Olmsted County,Minnesota.Gastroenterology.1997;112 :1448-1456(3\2).*

10-*Koufman JA,Wiener GJ,Wu WC,et al.Reflux laryngitis and its sequelae:the diagnostic role of ambulatory 24-hour pH monitoring.J Voice 1988;2(1):78-89.*

11-*Ahuja V.,Yencha MW.,Lassen LF.;Head and Neck manifestations of gastro-oesophageal reflux disease.American Family Physician,Sep.1999 Vol 60,no.3[www.AAFP.com].*

12-*Koufman J,Sataloff RT,Toohil R.Laryngopharyngeal reflux:Consensus conference report.J Voice 1996;10:215-6.*

13-*Toohil RJ,Kuhn JC.Role of reflexed acid in pathogenesis of laryngeal disorders.Am J Med 1997;103(5A);100S-106S.*

14-*Uluap SO,Toohil RJ,Kern M,et al:Pharyngo-UES contractile reflex in patients with posterior laryngitis.Laryngoscope 1982 Sep;108(9):1354-7[medline].*

15-*Burton LK Jr,Murray JA,Thompson DM,Ear,nose,and throat manifestations of gastro-oesophageal reflux disease:complaints can be telltale signs.Postgrad Med 2005;117(2):39-45(p2).*

16-*Ott DJ,Ledbetter MS,Koufman JA,et al:Globus pharyngeus:Radiographic evaluation and 24-hour Ph monitoring of the pharynx and oesophagus in 22 patients.Radiology 1994 Apr;191(1):95-7[medline].*

17-*Jamieson GG,Duranceau AC.Gastro-oesophageeal reflux.Philadelphia:Saunders,1988:84(4\2).*

18-*Szarka LA,DeVault KR,Murray JA.Diagnosing reflux diseaseMayo Clin Proc 2001;76(1):97-101(24\2).*

19-*Weinberg DS,Kadish SL.The diagnosis and management of gastro-oesophageal reflux disease.Med Clin North Am 1996;80:411-29(6\3i).*

20-*Havas TE,Priestley J,Lowinger DS.A management strategy for vocal process granuloma.Laryngoscope 1999;109:301-6.*

21-*Sontag SJ.the Medical Management of Reflux Oesophagitis:The Role of Antiacids and Acid Inhibition.In:Gastroenterology Clinics of North America.1990.(19),pg.683(56\3).*

22-*Chiba N.Rapidity of Healing in GERD:A Comparison of Different Drug Classes by Meta-Analysis.Gastroenterology.1993.Vol. 104(4,pt 2),A53.(59\3).*

23-*Kamel PL,Hanson D,Kahrilas PJ.Prospective trial of omeprazole in the treatment of posterior laryngitis.Am J Med 1994;96:321-326.*

24-*Wo JM,Grist WJ,Grussack G,et al:Empiric trail of high-dose omeprazole in patients with posterior laryngitis:a prospective study.Am J Gasteroenterol 1997 Dec;92(12):2160-5[medline]*

25-*Shaw GY,Searl JP,Young JL,et al:Subjective,laryngoscopic,and acoustic measurement of laryngeal reflux befor and after treatment with omeprazole.J Voice 1996 Des;10(4):410-8[medline].*